

Application No.: 10/510,016

Docket No.: 17172/022001

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-13 are pending in this application. Claims 1, 10, and 13 are independent. The remaining claims depend, directly or indirectly, from claims 1 and 10.

Claim Amendments

Claims 1, 10, and 13 are amended this reply to clarify the present invention recited. Additionally, claim 14 has been added in this reply. No new matter has been added by way of these amendments, as support may be found in, for example, page 7, lines 18-24, page 8, line 21 – page 9, line 15, and Figures 1 and 3.

Claim Objections

Claims 5-9 stand objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. Further, the Examiner indicates that claims 5-9 have not been examined on the merits.

Applicant notes that claims 5-9, as written in the Request for Continued Examination dated March 27, 2008 ("the RCE"), were inaccurately presented. In particular, claims 3, 5, 6, 7, 8, and 12 were amended in a Preliminary Amendment, filed September 30, 2004, to place these claims in proper dependent form. Further, additional claim amendments were made in the response filed September 28, 2007. In the RCE submitted by the Applicant, these claims were incorrectly indicated as being original or previously presented without

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including all of the previously entered amendments, namely those regarding the multiple dependencies.

Applicant thanks the Examiner for the courtesies extended during the phone interview on July 1, 2008, during which the amendments to the multiple dependent claims were discussed. Pursuant to that conversation, Applicant submits herewith amended claims, wherein the previous amendments to the claims that were entered are simply indicated as "previously presented" and no underlining or strike-through markings are made to correct the previously corrected multiple dependent claims. Based on the previous amendments to the claims, and the corrected claims set forth above, withdrawal of the objection of the claims based on the multiple dependent form is respectfully requested. Should the Examiner have any questions or require any further amendments, he is encouraged to contact the undersigned at his earliest convenience.

Examiner Interview

Applicant thanks the Examiner for the courtesies extended during the Examiner Interview conducted on July 16, 2008. During the Interview, the rejections in the Office Action mailed May 30, 2008, were discussed. The amendments and remarks submitted herewith are in accordance with that discussion.

Rejections under 35 U.S.C. § 102

Claims 1, 3, 4, 10, 11, and 13 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,276,452 ("Davis"). Independent claims 1, 10, and 13 have been amended in this reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

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Amended claim 1 recites a downhole tool for collecting and retrieving junk from a well bore, the tool including a cylindrical body attachable in a work string, said body having an internal throughbore, and independent of said throughbore, an external sleeve located around the body defining a trap for junk, a multi-faceted surface including a plurality of projections arranged at an end of the body for contacting with and breaking up junk, and a plurality of inlet ports through which the broken up junk passes into the trap for collection, wherein each projection is located between adjacent inlet ports and extends below said ports and wherein adjacent projections define channels therebetween which are shaped to direct the junk into the respective inlet ports.

Amended claim 10 recites a method of collecting and retrieving junk within a well bore, by means of circulating fluid through a workstring and into an annulus around the workstring, the workstring including a cylindrical body, said body having an internal throughbore, and an external sleeve located around the body defining a trap for junk, the method further including the steps (a) providing a multi-faceted contact surface on a work string, the surface including a plurality of projections and a plurality of inlet ports providing access to the trap, each projection being located between adjacent inlet ports, (b) breaking up large pieces of junk by contact with the surface, (c) directing the broken-up junk upwardly towards the inlet ports along channels defined between adjacent projections and into the trap directly from the annulus, and (d) storing the broken-up junk in said trap.

Amended claim 13 recites a downhole tool for collecting and retrieving junk from a well bore, the tool including a cylindrical body attachable in a work string, said body having an internal throughbore, and an external sleeve located around the body defining a trap for junk, wherein the body extends at least an entire length of the sleeve, a multi-faceted surface

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comprising a plurality of projections arranged at an end of the body for contacting with and breaking up junk, and a plurality of inlet ports through which the broken up junk passes into the trap for collection wherein each projection is located between adjacent inlet ports.

The present invention advantageously provides a tool capable of capturing large pieces of junk or debris in a well bore by breaking up the junk and then collecting the junk in a trap. Further, the design of the tool allows junk laden fluid to be jetted into the trap for collection. This results in a tool that does not require rotation to create a centrifugal force to drive fluid through the tool. Thus, the tool can be operated by either being run into a well bore or via circulation of fluid upwards through the inlet ports.

Davis discloses an apparatus for drawing small milling debris into a combination milling and debris removal tool and subsequently into a separator section. The Davis tool is configured to separate small cutting debris from fluid flow at the bottom hole assembly (BHA). Davis' tool includes fluid eductor nozzles that generate reverse circulation of a fluid through the tool. Specifically, Davis teaches a tool with a plurality of fluid eductor nozzles (34) that during operation create a vacuum in the ejection port section (12). The vacuum draws fluids up through the intake ports (26) of the tool. (See Davis, col. 5, lines 20-57).

Davis fails to teach or disclose a tool with a body having an internal throughbore, and independent of said throughbore, an external sleeve located around the body defining a trap for junk, as required by amended independent claim 1. In contrast, the annular area 56 within Davis' tool depends on a flow of fluid through the deflector tube 28. In particular, debris-laden fluid exits the side ports 30 in the deflector tube 28 and debris, which is heavier than the fluid, may separate from the fluid and settle into the annular area 56 between the deflector tube 28 and the wash pipe extension section 18. Thus, assuming *arguendo* that the deflection tube 28 may

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be considered the body of the tool 8', as asserted by the Examiner, the tool fails to provide an external sleeve located around the body of the tool that is independent of the internal throughbore of the body, as required by claim 1.

Similarly, Davis fails to teach or disclose a tool with a body having an internal throughbore, and an external sleeve located around the body defining a trap for junk, wherein the body extends at least an entire length of the sleeve, as required by amended independent claim 13. Rather, Davis discloses a tool that includes a deflection tube 28 that extends partially into a wash pipe extension section 18. Thus, Davis' tool fails to teach or disclose a tool body that extends at least the entire length of the "sleeve," as asserted by the Examiner (*i.e.*, the wash pipe that forms the annular area 56).

Further, Davis fails to teach or disclose a multi-faceted surface including a plurality of projections arranged at an end of the body for contacting with and breaking up junk, wherein each projection is located between adjacent inlet ports and extends below said ports and wherein adjacent projections define channels therebetween which are shaped to direct the junk into the respective inlet ports, as required amended independent claim 1. In contrast, Davis merely shows milling tool blades 23 disposed above, *i.e.*, uphole, of the intake ports 26. (See Davis, col. 4, lines 44-46). The blades 23 are used to mill away the casing or other metal items. Thus, Davis fails to teach or suggest projections that are located *between* adjacent inlet ports that *extend below* the ports as claimed in claim 1. Further, Davis fails to teach or disclose adjacent projections that define channels therebetween which are shaped to direct the junk into the respective inlet ports, as also required by amended independent claim 1. The projections of Davis, *i.e.*, the blades of the milling tool, are used to break the casing wall and fail to provide a channel to direct the junk into the port 26.

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Lastly, Davis fails to teach or suggest a method of collecting and retrieving junk within a well bore by circulating fluid through a workstring and into an annulus around the workstring and directing the broken-up junk upwardly towards the inlet ports along channels defined between adjacent projections and into the trap directly from the annulus, as required by amended independent claim 10. In contrast, Davis teaches directing fluid through eductor nozzles 34 downwardly through ejection ports 24, thereby creating an area of low pressure or vacuum in the ejection port section 12 which draws fluid up through the intake ports 26. (See Davis, col. 5, lines 30-40). Thus, the tool of Davis draws debris-laden fluid in through an intake port 26 into an internal bore of the tool, i.e., the deflector tube 28, rather than directly from the annulus around the work string into the trap, as required by claim 10.

Applicant respectfully notes that in order for a claim to be anticipated, "every element and limitation of the claimed invention must be found in a single prior art reference, arranged as in the claim." *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001). In view of the above, Davis fails to teach or suggest all the limitations recited in amended claims 1, 10, and 13 as required to support a rejection under §102. Thus, claims 1, 10, and 13 are patentable over Davis. Dependent claims are allowable for at least the same reasons. Accordingly, withdrawal of the rejection is respectfully requested. Claims 1 and 10 have been amended in this reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

Rejections under 35 U.S.C. § 103

Claims 2 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Davis in view of U.S. Patent No. 5,682,950 ("Bjornstad"). Claim 2 depends from independent claim 1 and claim 12 depends from independent claim 10. Claims 1 and 10 have

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been amended in this reply to clarify the present invention recited. To the extent that this rejection may still apply to the amended claims, the rejection is respectfully traversed.

Bjornstad discloses a tool specifically suited for deviation wells, *e.g.*, non-vertical wells, wherein the junk collector is disposed proximate a mill. As the mill (5) moves through the wellbore, drilling fluid and milled material is pressed through a channel (4) in the mill. Thus, the fluid and milled material are pressed into the junk chamber as a result of the tool and drilling pipe being pulled into the well. As the drilling pipe, and therefore junk collector, is rotated, the junk in the junk collector is forced further into the junk chamber.

The Examiner cites Bjornstad as support for covering an outer surface of the mill with tungsten carbide and for use of a valve in order to close the chamber, as required by dependent claims 2 and 12. Applicants respectfully submit that amended claims 1 and 10 are patentable over Davis and Bjornstad, whether considered separately or in combination. In particular, amended claims 1 and 10 provide a downhole tool and method for retrieving junk from a wellbore, wherein the tool includes a body having an internal throughbore and, independent of said throughbore, an external sleeve located around the body defining a trap for junk, and a method of collecting and retrieving junk within a well bore by circulating fluid through a workstring and into an annulus around the workstring and directing the broken-up junk upwardly towards the inlet ports and into the trap directly from the annulus, respectively.

As discussed above, Davis fails to teach or suggest a tool that includes a body having an internal throughbore and, independent of said throughbore, an external sleeve located around the body. Further, Davis fails to teach or suggest circulating fluid and directing junk in the annulus around the drill string upwardly towards the inlet ports. Bjornstad fails to show or suggest that which Davis lacks. Therefore, independent claims 1 and 10 are patentable over

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Davis and Bjornstad, whether considered separately or in combination. Dependent claims 2 and 12 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

New Claim

Claim 14 has been added in this reply to clarify the present invention recited. New claim 14 recites a downhole tool for collecting and retrieving junk from a well bore, the tool including a cylindrical body attachable in a work string, said body having an internal throughbore, an external sleeve located around the body defining a trap for junk, said sleeve having at one end thereof, a plurality of inlet ports, and a multi-faceted surface arranged upon the body and comprising a plurality of projections for contacting with and breaking up junk, wherein each projection is located between adjacent inlet ports and wherein adjacent projections define channels therebetween which are shaped to direct the junk into the respective inlet ports.

As discussed above, Davis teaches a tool with a plurality of fluid eductor nozzles (34) that during operation create a vacuum in the ejection port section (12). The vacuum draws fluids up through the intake ports (26) of the tool. (See Davis, col. 5, lines 20-57). Debris-laden fluid exits the side ports 30 in the deflector tube 28 and debris, which is heavier than the fluid, may separate from the fluid and settle into the annular area 56 between the deflector tube 28 and the wash pipe extension section 18. Davis, however, fails to teach or suggest a plurality of inlet ports at one end of the sleeve. Rather, Davis discloses a port at the end of the tool body configured to draw fluid into the bore of the deflector tube 28. Further, Davis fails to teach or suggest projections located between adjacent inlet ports. The milling tool blades 23 of Davis are clearly disposed above the inlet port 26 of the tool. (See Davis, col. 4, lines 44-46). Further, the milling tool blades 23 mill away the casing or other metal items and do not define channels which

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are shaped to direct the junk into the respective inlet ports, as required by new claim 14. Bjornstad fails to disclose that which Davis lacks.

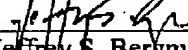
In view of the above, new claim 14 is patentable over Davis and Bjornstad, whether considered separately or in combination.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 17172/022001).

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Respectfully submitted,

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